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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHANG, JUNGWON

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/07/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

924

Office Action Summary	Application No.	Applicant(s)	
	09/677,274	TUMMALA ET AL.	
	Examiner	Art Unit	
	Jungwon Chang	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-42 are presented for examination.
2. Acknowledgment is made of receipt of formal drawings dated 8/8/2001.
3. Claims 13, 30 and 32 are objected to because they are duplicates of claim 11.
4. Claims 16 and 35 are objected to because they are duplicates of claims 18 and 37 respectively.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. The following terms lack proper antecedent basis:
 - i. the returned information – claim 20, line 5;
 - b. The claim language in the following claims is not clearly understood:
 - i. As to claims 1, it is not clear what AAA and AVP stand for (i.e.,

Authentication, Authorization and Accounting; Attribute Value Pair).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 4, 6, 20-23, 25 and 40-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Basilier et al. (US 6,728,536), hereinafter Basilier.

9. As to claim 1, Basilier discloses the invention as claimed, including a method for establishing a connection for a mobile node (i.e., mobile terminal; col. 3, lines 54-56) on a communications system (100, fig. 1) having a home network (i.e., home IP network; col. 3, lines 49-50) for the mobile node and at least one foreign network (i.e., visited access network; col. 3, line 65 – col. 4, line 4) comprising the steps of:

receiving a registration request message at a foreign network AAA server (i.e., Authentication, Authorization, Accounting server; AAA-F, fig. 1; col. 1, lines 43-46) (i.e., registration of the mobile node; col. 5, lines 30-35; col. 4, lines 62-64);

transmitting a request to an AAA broker server (i.e., Authentication,

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Authorization, Accounting broker server; AAA-B; 120, fig. 1; col. 1, lines 49-51) to obtain information to establish a connection between the foreign and home networks (col. 5, lines 36-40); and,

receiving at the foreign network AAA server (i.e., AAA-F, fig. 1; col. 1, lines 43-46) a response from the AAA broker server (col. 5, lines 42-44).

10. As to claim 2, Basilier discloses establishing a connection with an AAA server (i.e., AAA-H; 110, fig. 1; col. 3, lines 49-50) on the home network based upon the information received from the AAA broker server (col. 2, lines 30-33).

11. As to claim 4, Basilier discloses containing the IP address of the home network to which the request should be directly forwarded (col. 5, lines 49-51).

12. As to claim 6, Basilier discloses transmitting the request to the AAA broker server for all messages to be addressed to unknown networks in order to identify the home network (i.e., determining the mobile node's home network; col. 6, lines 5-20; col. 5, lines 36-42).

13. As to claim 20, Basilier discloses after receiving the response from AAA broker that services the home network, the foreign network initiates a security association pursuant to the returned information in the response message by transmitting a message to the home network from the foreign network (i.e., initiating the encapsulated

authentication information; col. 2, lines 17-26 and 62-67; col. 4, lines 11-20; col. 7, lines 34-36).

14. As to claim 21, Basilier discloses receiving a message from the home network at the foreign network AAA server after the home network AAA server processes a request from the foreign network server for a secure connection (i.e., authentication communications link between home and foreign networks; col. 2, lines 17-26; col. 5, lines 45-47).

15. As to claims 22 and 42, Basilier discloses the invention as claimed, including a system for establishing a home network connection of a mobile node (102, fig. 1) on a foreign network (i.e., mobile terminal roams in a visited network; 104, fig. 1; col. 3, lines 39-40) in a wireless communications network comprising:

- a home network (109, fig. 1) having a home agent (i.e., HA, 126, fig. 1) coupled to a home AAA server (i.e., home Authentication, Authorization, Accounting broker server; AAA-H, 110, fig. 1; col. 3, lines 49-50; col. 4, lines 4-8);

- a foreign network (104, fig. 1) having a foreign agent (i.e., 122, 124, 130, fig. 1; col. 4, lines 4-8 and 65-67) coupled to a foreign AAA server (i.e., Authentication, Authorization, Accounting server; AAA-F, fig. 1; col. 1, lines 43-46);

- a mobile node (102, fig. 1) transmitting a request message to the foreign AAA server (i.e., Authentication, Authorization, Accounting server; AAA-F, fig. 1; col. 1, lines 43-46) in response to establish a connection between the mobile node and the home

network (i.e., transmitting a registration request of the mobile node; col. 5, lines 30-35; col. 4, lines 62-64); and

a AAA broker server (i.e., Authentication, Authorization, Accounting broker server; AAA-B; 120, fig. 1; col. 1, lines 49-51) coupled to the foreign AAA server (i.e., Authentication, Authorization, Accounting server; AAA-F, fig. 1; col. 1, lines 43-46), the foreign AAA server transmitting a request to the AAA broker server to determine the location of the home network (i.e., determining the mobile node's home network; col. 6, lines 5-20) for establishing a home network connection between the mobile node and the home network (col. 5, lines 36-40).

16. As to claim 23, it is rejected for the same reasons set forth in claim 4 above.
17. As to claim 25, it is rejected for the same reasons set forth in claim 6 above.
18. As to claim 40, it is rejected for the same reasons set forth in claim 20 above.
19. As to claim 41, it is rejected for the same reasons set forth in claim 21 above.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 3, 14, 19, 33, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basilier et al. (US 6,728,536), in view of "Official Notice".

22. As to claim 3, Basilier discloses receiving a response from the AAA broker server with a rejection response (i.e., deny service; col. 5, lines 22-25). However, Basilier does not specifically disclose the AAA broker server determines that the home network is not found serviced by the AAA broker server. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include rejection response because in the event of a failure of the home node cannot provide the communication connection.

23. As to claim 14, Basilier discloses transmitting a request to an AAA broker server (i.e., AAA-B; 120, fig. 1; col. 1, lines 49-51) in response to the response received by the foreign network server (col. 5, lines 36-40), and Basilier discloses a plurality of AAA broker servers (i.e., a number of AAA broker functions; col. 1, lines 49-51; col. 3, lines 60-61). However, Basilier does not specifically use a term second AAA broker server. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include second AAA broker server would improve fault tolerance by providing a plurality of AAA broker servers.

24. As to claim 19, Basilier discloses a plurality of AAA broker servers (i.e., a number of AAA broker functions; col. 1, lines 49-51; col. 3, lines 60-61). However, Basilier does not specifically disclose contacting a second AAA broker server after a rejection response is received from the AAA broker server. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include second AAA broker server would improve fault tolerance by providing a plurality of AAA broker servers.

25. As to claim 38, it is rejected for the same reasons set forth in claim 3 above.

26. As to claims 33 and 39, they are rejected for the same reasons set forth in claim 19 above.

27. Claims 5, 7-13, 15-18, 24, 26-32 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basilier et al. (US 6,728,536), in view of Sitaraman et al. (US 6,466,977), hereinafter Sitaraman.

28. As to claims 5 and 9, Basilier does not specifically disclose AAA broker server has multiple instances of a first value to indicate that different host networks can be contacted. However, Sitaraman discloses AAA broker server (i.e., AAA proxy server) has multiple instances of a first value to indicate that different host networks can be contacted (col. 6, lines 52-66). It would have been obvious to one of ordinary skill in the

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art at the time the invention was made to combine the teachings of Basilier and Sitaraman because Sitaraman's indication of contacting with different host networks would improve reliability of communications by allowing the mobile device to selectively connect to the desired communications network.

29. As to claims 7 and 8, Basilier discloses the foreign network having roaming agreements with the home network (col. 5, lines 26-28; col. 6, lines 5-20). However, Basilier does not specifically disclose receiving the response from the AAA broker server with a session time-out value as a discretionary indication to the foreign network server on how long the home network entry should be maintained as valid on the foreign network. Sitaraman discloses receiving the response from the AAA server with a session time-out value as a discretionary indication to the foreign network server on how long the home network entry should be maintained as valid on the foreign network (i.e., Service Level Agreement (SLA) parameters such as time of day, day of week; col. 3, lines 22-24; col. 6, lines 52-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Basilier and Sitaraman because Sitaraman's response with a time value would improve the quality of service by providing the information of network availability based on the service agreements.

30. As to claim 10, Basilier discloses AAA broker server with a certificate of the foreign network server (i.e., public encrypted key; col. 1, lines 49-54). However, Basilier

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does not specifically disclose host network server. Sitaraman discloses a host network server (i.e., ISPA or ISPB; col. 6, lines 52-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Basilier and Sitaraman because Sitaraman's host network server would increase the capability of Basilier's system by allowing the mobile node to alternatively connect to the authenticated host network server.

31. As to claim 11, it is rejected for the same reasons set forth in claim 10 above. In addition, Basilier discloses a mobile user identity (i.e., user-name, user-password, user-IP address; col. 3, lines 7-10 and 42-46; col. 6, lines 10-18). However, Basilier does not specifically use a term "AVP (i.e., Attribute Value Pair consisting of a name of an attribute and a value such as, user-name, user-password, user-IP address). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include AVP because doing so would improve the security of Basilier's system by allowing the system to verify the user using the information stored in the attributes.

32. As to claim 12, Basilier discloses receiving the response from the AAA broker server with a certificate of the foreign network server (i.e., public encrypted key; col. 1, lines 49-54) where the foreign network server forwards the certificate in a communication to the home AAA server (i.e., transmitting the encrypted information from the foreign network to the home network; col. 2, lines 23-26; col. 4, lines 11-20; col. 7, lines 34-36).

33. As to claims 15-17, Basilier discloses receiving the response from the AAA broker server (col. 5, lines 42-44) after the AAA broker server validates the request from the foreign network against information retained in the AAA broker server on allowed request client (i.e., service/roaming agreements or routing information; col. 5, lines 37-39; col. 6, lines 5-20) or by processing a destination or user name attribute (i.e., mobile user identity, i.e., user-name, user-password, user-IP address, col. 3, lines 7-10 and 42-46; col. 6, lines 10-18) in an attempt to find a match on the home network (i.e., determining/finding the mobile node's home network; col. 6, lines 5-20; col. 5, lines 36-42).

34. As to claims 13, 30 and 32, they are rejected for the same reasons set forth in claim 11 above.

35. As to claim 18, it is rejected for the same reasons set forth in claim 16 above

36. As to claim 24, it is rejected for the same reasons set forth in claim 5 above.

37. As to claims 26 and 27, they are rejected for the same reasons set forth in claims 7 and 8 above.

38. As to claim 28, it is rejected for the same reasons set forth in claim 9 above.

39. As to claim 29, it is rejected for the same reasons set forth in claim 10 above.

40. As to claim 31, it is rejected for the same reasons set forth in claim 12 above.

41. As to claims 34-37, they are rejected for the same reasons set forth in claims 15-17 above.

Conclusion

42. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Bender, patent 6,366,561, Hiller et al, patent 6,455,922, Leung et al, patent 6,466,964, Rai et al, patent 6,421,714, Sitaraman et al, patent 6,668,283, Amin et al, patent 6,714,987, Xu et al, patent 6,738,362 disclose method and system for routing of data packets to and from mobile nodes that are connected to the visited network over the mobile IP network.


43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jungwon Chang whose telephone number is (703) 305-9669. The examiner can normally be reached on 9:30-6:00 (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John A Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jungwon Chang
May 28, 2004



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